

AU/AWC/RWP123/96-04

AIR WAR COLLEGE

AIR UNIVERSITY

THE GENERAL SUPPORT DIVISION OF THE STOCK FUND
HAVE THE PROBLEMS BEEN SOLVED?

by

Steven Graham, Lt Col, USAF

A Research Report Submitted To The Faculty

In Fulfillment Of The Curriculum Requirement

Advisor: Dr Ted M. Kluz

Maxwell Air Force Base, Alabama

April 1996

20010921 167

DISTRIBUTION A:

Approved for public release; distribution is unlimited.

Air War College
Maxwell AFB, Al 36112

Disclaimer

The views expressed in this academic research paper are those of the author(s) and do not reflect the official policy or position of the US government or the Department of Defense. In accordance with Air Force Instruction 51-303, it is not copyrighted, but is the property of the United States government.

Contents

	<i>Page</i>
DISCLAIMER	ii
ABSTRACT.....	iv
FIXING THE AIR FORCE STOCK FUND: THE GENERALS' INITIATIVES.....	1
DEFINING THE AIR FORCE STOCK FUND: HOW IT WORKS AND WHY	4
THE STOCK FUND RATIO: KEY TO STOCK FUND MANAGEMENT.....	10
CHANGING THE RATIO: IS THE CURE WORTH THE PAIN?	13
THE MATERIEL ACQUISITION CONTROL RECORD: SETTING THE HANDBRAKE ON SUPPORT	19
MACR II: NEW ERRONEOUS FINANCIAL DATA.....	25
SUMMARY, RECOMMENDATIONS, AND CONCLUSION.....	30
BIBLIOGRAPHY	34

Abstract

As a result of serious difficulties with the Air Force Stock Fund, the Office of the Secretary of Defense formed a General Officer Steering Group (GOSG) in December 1988 to place new emphasis on stock fund management. In response, the GOSG directed the format of the stock fund ratio be changed from an obligations-to-demands ratio to an obligations-to-sales ratio. They also directed the redesign of the materiel acquisition control record (MACR) to provide real-time visibility over the stock fund program. Five years later, it is apparent that neither one of these initiatives has improved stock fund management at base level. Instead, workload has increased, the number of priority backorders has increased, customer frustration and dissatisfaction have increased, and mission support has decreased. This study will affirm that outcome and mark the key decision points.

Chapter 1

Fixing The Air Force Stock Fund: The Generals' Initiatives

Within the Department of the Air Force, the health, safety, and well-being of every Air Force member rests on the ability of Air Force managers to provide an inventory of tools, spare parts, equipment, clothing, and many other assets to ensure mission needs are met. Stock funding is a technique used by the Air Force and other services to make the cost of managing this inventory visible to managers.¹ In turn, commanders and other resource managers at base level, particularly the Chief of Supply, recognize that asset accountability and accurate, timely financial decisions to replenish inventory are essential to effective stock fund management.²

The Air Force stock fund experienced serious financial difficulties between 1987 and 1989. As a result, the Office of the Secretary of Defense formed a General Officer Steering Group (GOSG) in December 1989 to place new and increased emphasis on stock fund management. Meeting semi-annually over the following years, the GOSG directed two initiatives to cut losses and regain control of the Air Force stock fund. The first, issued 22 February 1989 by the GOSG was the commissioning of a Blue Ribbon panel to determine changes necessary to existing stock fund systems to better enable effective and prudent management of the stock fund. At the same time, the GOSG tasked major air command (MAJCOM) supply functions to consider the use of materiel acquisition control

records (MACR) as a necessary adjunct to better control.³ MACR controls, when operating at optimum, would allow base level managers to regulate requisition quantities and provide managers flexibility in maintaining inventory levels. At the 8 May 1989 meeting of the GOSG, the Blue Ribbon panel outlined requirements for a new MACR which would track actual obligations, commitments, and provide real-time visibility over the stock fund program.⁴ In stock fund parlance, an obligation is an amount the government is legally bound to pay a source of supply (Defense Logistics Agency, General Services Administration, other services, or a commercial vendor) as a result of a requisition from base supply or a contract from base contracting.⁵ Obligations can be adjusted at various accounting stages based on price reductions (or increases), changes to contracts, prompt payment discounts, etc. Outstanding obligations are eventually cleared through payment by any accounting and finance office. A commitment, on the other hand, is a reservation of funds in anticipation of future obligations.⁶ A commitment is recorded at the time of the requisition and funds are withheld from the customer's organizational and maintenance (O&M) account. Once a contract award confirmation is received from base contracting or the requisition is passed to the source of supply, the commitment becomes an obligation. By redesigning the MACR for optimum efficiency, the GOSG expected improved visibility of the impact of obligations and commitments on available inventory.

Secondly, at the 27 August 1991 meeting the GOSG directed the format of the stock fund ratio be changed from one of an obligations-to-demands ratio to one of an obligations-to-sales ratio.⁷ While base supply traditionally used demands (orders placed) in their management programs, there often was a lengthy period between the time of the

demand (when the order was placed) and the time the customer received his property (the sale). To achieve real-time visibility and to accommodate Air Force Materiel Command design of the new MACR, the stock fund ratio was changed.

Each of these GOSG initiatives was implemented with the energy and enthusiasm to improve base level stock fund management. Indeed, changes to the stock fund ratio and MACR have had an impact at base level, though perhaps not the impact initially imagined. However, before exploring the results of these GOSG-directed initiatives, it is important to better define the concept of a stock fund.

Notes

¹"Executive Handbook for Stock Fund Managers." Prepared by Captain Raymond T. Daly, Jr., SMSgt Rosemary Johnston, and Captain Bradley D. Silver, Air Force Logistics Management Center, July 1991, 3.

²Bauman, Lt Col John V., "The New Air Force Stock Fund: Its Impact and Applications for Commanders," Air University, 1992, 4.

³HQ AFAFC/CC Letter, "Minutes of the Stock Fund General Officer Steering Group Meeting, 8 May 1989," 7 June 1989 (Draft).

⁴Ibid.

⁵AFM 23-110, Vol II, Part Ten, Chap 1, Atch A1.2, 1 October 1995.

⁶Ibid.

⁷HQ USAF/LGS Letter, "Minutes of the Stock Fund General Officer Steering Group (GSOP) Meeting, 27 Aug 91," 2 October 1991.

Chapter 2

Defining The Air Force Stock Fund: How It Works And Why

A stock fund is a revolving or working capital fund. The working capital can be thought of as funds tied up at all times in inventory, in property on order or in transit (that is, in the logistics pipeline), and in working cash balances on hand. In this way, stock fund assets represent the total financial resources needed to bring goods to the customer.¹ The stock fund is designed to finance inventories and necessary materiel by generating sales of stock fund assets. Any time a customer receives materiel from the stock fund, the transaction is regarded as a sale or issue, which means the same thing in the Air Force.²

The authority for stock funds came from Congress. Congressional Act 2208, of 10 U.S.C. gave the Secretary of Defense authority to finance inventories through working capital funds in the Department of Defense. Stock funds hold the cost of purchases in suspense. This means when money is spent (or obligated) for supplies, the money is not available for further use until the items purchased are sold to the customer. At base level, customer funds are ordinarily used to reimburse the stock fund. While customer funds are withdrawn from the customer's O&M account at the time the order is placed, the funds are not available to the stock fund until the customer receives the materiel.³

The Secretary of Defense established five stock funds: the Army, Navy, Marine Corps, Defense, and Air Force stock funds.⁴ From these funds, the services use working

capital to support depot and unit level activities. Within the Air Force, the stock fund is divided into seven divisions: Air Force Academy Cadet Store Division; Medical-Dental Division; Cost of Operations Division; Fuels Division; Reparable Support Division; System Support Division; and the General Support Division. Once a stock fund division is established, all materiel designated to be a part of that division is capitalized. The combination of the inventory on-hand and in-transit, along with available cash, becomes the capital of that particular stock fund division.⁵ Each of the seven stock fund divisions serves a different function.

The Air Force Academy Cadet Division is used to manage academic supplies and services for cadets attending the Air Force Academy. The Medical-Dental Division provides financial management and inventory control for all medical and dental supplies and equipment. This division is also responsible for distribution of these assets and for prepositioning wartime medical and dental supplies. The Cost of Operations Division manages costs for manpower, travel, supplies, equipment, contracts and other depot costs associated with day-to-day wholesale operations.⁶ These three divisions have a minimal impact on the typical, lowest level base mission. However, the remaining four divisions represent a significant managerial challenge.⁷ The Fuels Division of the stock fund provides the capital needed to carry bulk petroleum inventories of the Air Force from one fiscal year to another. The stock fund establishes a buyer-seller relationship between customer organizations as consumers and the stock fund manager as seller. This relationship provides for efficient management of bulk petroleum inventories by balancing the responsibility for supply and demand between those who manage the supply system and those who place demands on it.⁸

The Repairable Support Division of the stock fund provides financial and inventory management, distribution, and repair to depot level repairable assets assigned budget code 8.⁹ These type of assets were formerly centrally procured by Air Force Materiel Command and were issued to customers on a non-reimbursable basis. However, the Office of the Secretary of Defense issued Defense Management Report Decision (DMRD) 904 on 9 November 1989 directing both the Air Force and the Army to follow the Navy's lead in stock funding depot level reparables.¹⁰ Depot level reparables are commonly referred to as Line Replaceable Units (LRUs) and Shop Replaceable Units (SRUs). They include, but are not limited to, electronics and telecommunications spares, vehicle spares, aircraft spares, missile spares, and other maintenance spares. Since 1 October 1992, Air Force stock fund customers must pay the stock fund for parts that were previously free-issued. The Repairable Support Division uses a multi-tiered pricing framework to recover the cost of acquisition, repair, and related wholesale overhead expenses. Prices are established annually to break even with customers without creating a surplus or a deficit in the fund.¹¹

The System Support Division of the Air Force stock fund finances wholesale and retail supply levels for the consumable repair parts assigned to the Air Force for management within the Department of Defense supply system. Like all Department of Defense stock funds, the Systems Support Division is a revolving fund that pays for replenishment of its stock with cash generated by sales to customers. In the case of the Systems Support Division, the customers are primarily the Air Force's depot maintenance facilities at its five Air Logistics Centers and base level repair facilities.¹² Systems Support

Division spares serve primarily as repair parts for other reparable components removed from aircraft and undergoing depot level or base level repair.¹³

The Reparable Support Division and Systems Support Division are similar in that both are examples of vertical stock funds. A vertical stock fund operates at both wholesale (depot) and retail (base) levels. In these divisions, item managers at the depots determine what system support items the Air Force will need.¹⁴ They fund and pay for these items and store them at the appropriate depot under Air Force Materiel Command control. When a base has a requirement for one of these items, the depot ships the item from the wholesale activity to the retail activity.

In contrast, the General Support Division is a horizontal stock fund which operates with greater flexibility at base level. As such, the General Support Division has financial responsibility and inventory control for all expendable supplies and equipment items with budget code 9. Sources of supply for the General Support Division include Defense Logistics Agency, General Services Administration, other services, and local purchase.¹⁵

In defining the stock fund, it is important to consider why a stock fund is necessary. A stock fund, particularly the General Support Division at base level, provides a mechanism to provide stability in customer support while maintaining positive control of critical resources. Inventory management, capital control, and cost efficiencies form the basis for effective stock fund management.¹⁶

Inventory management means simply getting the right part to the right place, at the right time, and in the right quantities. There are many costs associated with seeing this process through to completion. Not only must the stock fund manager (the Chief of Supply) consider the number of demands, delivery lead times, stockage levels,

replenishment stock on order, etc., he must also consider the associated costs. Mode of shipment (seavan versus airlift), costs of processing the order, cost of handling, and even costs of containers become important variables in inventory management. Key principles of inventory management demand the limiting of excess inventory, striving for just-in-time delivery, and using a limited budget to keep property moving and meet customer needs. Since customer requirements are dynamic, stock fund management helps reduce excess inventory, customer backorders, and additional inventory expenses by ordering the items the customer has placed on a higher priority. Capital control, for obvious reasons, is equally important.

Capital control is nothing more than effective accounting procedures. Since a stock fund is by definition self-sustaining, accounting controls along with inventory controls are imperative if the stock fund is to remain viable. Accounting and finance and base supply must work closely and harmoniously to ensure all supply transactions and financial transactions are accounted for properly and promptly.

Finally, while the stock fund is not in the business of making a profit, it must balance customer satisfaction with cost considerations to meet mission needs. Operating under budget constraints, the stock fund allows the manager to use cost efficiencies to accomplish the mission effectively.

The General Officers Steering Group was formed to resolve deficiencies in stock fund management. In their review, they recognized the importance of inventory management, capital control, and cost efficiencies to the General Support Division of the stock fund. One of the initiatives they decided to employ to enhance stock fund management was a reformulation of the stock fund ratio.

Notes

¹“Executive Handbook for Stock Fund Managers.” Prepared by Captain Raymond T. Daly, Jr., SMSgt Rosemary Johnston, and Captain Bradley D. Silver, Air Force Logistics Management Center, July 1991, 4.

²Bauman, Lt Col John V., “The New Air Force Stock Fund: Its Impact and Applications for Commanders,” Air University, 1992.

³AFM 23-110, Vol II, Part Ten, Chap 1, Para 1.5.2, 1 October 1995.

⁴Ibid.

⁵Ibid.

⁶AFM 67-1, Vol I, Part Three, Chap 1, Sect A, Para 2, 26 June 1995.

⁷“Executive Handbook for Stock Fund Managers.” Prepared by Captain Raymond T. Daly, Jr., SMSgt Rosemary Johnston, and Captain Bradley D. Silver, Air Force Logistics Management Center, July 1991, 6.

⁸Ibid.

⁹AFM 67-1, Vol I, Part Three, Chap 7, Para 1.1, 26 June 1995.

¹⁰Air Force Base Level Implementation Training Package for Stock Funding Depot Level Reparables, Air Force Logistics Management Center Project LM922149, May 1992, 2.

¹¹AFM 67-1, Vol I, Part Three, Chap 7, Para 6.1, 26 June 1995.

¹²AFM 67-1, Vol I, Part Three, Chap 5, Sect A, 26 June 1995.

¹³Hanks, Christopher H., “The Influence of Systems Support Division Funding and Safety Levels on Aircraft Availability,” Logistics Management Institute, Task AF501-1, October 1985, 1.

¹⁴AFM 23-110, Vol II, Part Ten, Chap 1, Para 1.7.2, 1 October 1995.

¹⁵AFM 67-1, Vol I, Part Three, Chap 6, Sect A, 26 June 1995.

¹⁶“Executive Handbook for Stock Fund Managers.” Prepared by Captain Raymond T. Daly, Jr., SMSgt Rosemary Johnston, and Captain Bradley D. Silver, Air Force Logistics Management Center, July 1991, 6.

Chapter 3

The Stock Fund Ratio: Key To Stock Fund Management

The stock fund ratio is a computer-based program which serves as the primary reference point the Chief of Supply uses to manage his Stock Fund Operating Program (SFOP) at base level. This program contains projected sales, inventory requirements, gains, losses, and ordering authority placed with the various sources of supply. Each of these elements of the SFOP are time-phased on a monthly basis. When the General Support Division manager issues an official call, each base prepares and submits their operating program to their MAJCOM headquarters. MAJCOM stock fund managers review each base program and consolidate them into a command operating program, which is, in turn, submitted to the General Support Division manager. The division manager reviews each MAJCOM stock fund operating program, makes adjustments as necessary and consolidates the MAJCOM programs into a Budget Estimate Submission which is sent to Air Staff and the Secretary of the Air Force in August of each year.¹ Sometime between May and June, Air Staff will send the General Support Division manager the SFOP approved by the Office of the Secretary of Defense and the Office of Management and Budget for the upcoming fiscal year. The division manager then prepares SFOPs for each MAJCOM and releases them with sufficient time for MAJCOM

stock fund managers to send the programs to the Chiefs of Supply before the beginning of the new fiscal year.²

The SFOP for each base includes the approved credit returns, gross sales, net demands, an approved ratio, and total financial authority. It is important to understand that the General Support Division is not a pure revolving stock fund. A pure stock fund is restricted only by sales; the General Support Division is limited by the total financial authority, which is the sum of obligation and commitment authority approved by the MAJCOM. Targets for commitments and obligations cannot be exceeded without MAJCOM approval. However, the primary target of the stock fund program is provided by the stock fund ratio.

The Department of Defense provides the Air Force an overall target ratio which the General Support Division then divides and provides to each MAJCOM and ultimately to each base. The stock fund ratio is in reality an obligations-to-sales ratio. An operating ratio of 1.00 to 1.00 means that the stock fund is replenishing inventory and selling materiel at a break-even financial position. More simply stated, for every \$1.00 of inventory the Chief of Supply sells to his customers, he may order another \$1.00 of materiel to replenish his stocks.

The primary objective of the Chief of Supply is to achieve the approved ratio by the end of the fiscal year. One technique the Chief of Supply uses is Inventory and Capital Control. This management technique presets inventory objectives for materiel on hand, on order, and in transit but allows the Chief of Supply some flexibility in working within the guidelines. Inventory levels can be realigned up or down to adjust to changing customer requirements. As long as activities work within the general objectives of the SFOP, the

program will not have to be revised.³ The Chief of Supply must assure approved variances in the inventory objectives furnished by the MAJCOM stock fund manager are not exceeded. If the variances should be exceeded, the Chief of Supply must provide the MAJCOM the causes for the variances, remedial actions, and the get-well date.⁴ Incurring obligations or making expenditures that exceed the limits available in appropriations for funds may result in an Anti-Deficiency Act violation. This act, which was passed to curtail abuses, governs financial transactions and stipulates punishment for any infractions.⁵ The Chief of Supply cannot spend or obligate more than authorized by MAJCOM and exceeding commitment or obligation targets could result in possible violation of public law. As complex as stock fund management is, it became more complex with this change in the stock fund ratio.

Notes

¹AFM 23-110, Vol II, Part Ten, Chap 2, Para 2.1, 1 October 1995.

²AFM 23-110, Vol II, Part Ten, Chap 1, Atch A1.2, 1 October 1995.

³AFM 23-110, Vol II, Part Ten, Chap 1, Para 1.5.3, 1 October 1995.

⁴AFM 23-110, Vol II, Part Ten, Chap 2, Para 2.1, 1 October 1995.

⁵"Executive Handbook for Stock Fund Managers." Prepared by Captain Raymond T. Daly, Jr., SMSgt Rosemary Johnston, and Captain Bradley D. Silver, Air Force Logistics Management Center, July 1991, 9.

Chapter 4

Changing The Ratio: Is The Cure Worth The Pain?

Prior to August 1991, the stock fund ratio was a measure of obligations-to-demands. In this context, a 1.00 to 1.00 ratio meant for every \$1.00 of materiel a customer ordered, the Chief of Supply could order \$1.00 of inventory, even if the sale had not yet occurred. As briefly discussed in Chapter I, this practice created difficulties. First, Air Force stock fund problems were attributed to a lack of real-time visibility over stock fund program execution. Because a lengthy period of time could (and often does) occur between the time a demand is placed on supply and the time the sale is recorded, the General Support Division manager could not be absolutely certain of how much of his appropriations were tied up in commitments, obligations, and inventory. Secondly, Congress became concerned that Air Force inventories were extravagant. The reader may recall "60 Minutes" and "24 Hours" documentaries exploring alleged excess inventories at Air Logistics Centers. Consequently, the stock fund ratio was changed to reflect obligations-to-sales. This new measurement allowed tighter controls in the form of a more stringent ratio to demonstrate to Congress inventories were being reduced in accordance with projected force structure and activity level cuts.¹ For example, the Chief of Supply was given ratios as low as 0.85 to 1.00 which meant for every \$1.00 of materiel sold, he could order \$.85 of inventory.² The short-term result was a significant reduction in on-hand

inventories but in the long-term, the result has been a decrease in customer support and a significant management problem at base level.

As defined earlier, the General Support Division of the stock fund is used to finance inventories of required military materiel at base level. Customer O&M funds were formerly used to reimburse the stock fund upon acceptance of an order. Under the current concept, the cost of purchase is held in suspense until the actual sale occurs, that is, when the customer actually receives the property ordered. However, customer funds are not in fact used to procure the materiel. If stock funds are not available to purchase what the customer ordered, then the customer's funds are held in suspense until the stock fund records enough sales to procure the materiel. This concept requires dual record keeping for the obligated customer dollars and the stock fund dollars which is virtually duplicate money for the same requirement. More importantly, it results in delayed customer support when adequate stock funds are not available because the Chief of Supply must reduce obligations to meet his given ratio.

The problem becomes exacerbated at End of Year when fallout money from other areas (e.g., civilian pay, other bases) usually defaults to base supply for quick obligation. The stock fund cannot handle this huge influx of requirements; therefore, customer funds are committed while their needs are left unprocured until stock funds become available. This practice has an adverse impact on ordering authority.

Ordering authority represents the total dollar value of inventory the supply account is authorized to obligate, commit, and transfer during a period of time, normally a fiscal year. More importantly, ordering authority is based on the stock needed to meet base mission requirements using demand level computations. Consequently, the Chief of Supply cannot

use his ordering authority to replenish stock if it must be used to buy materiel for the customers' obligated needs. As a result, customer orders for non-mission critical assets, like furniture, could be placed on hold for months because the stock fund cannot handle both these customer orders and stock replenishment with limited ordering authority. This problem is compounded at overseas bases because of time and distances involved.

In FY 1994, bases in Pacific Air Forces (PACAF) carried \$36.3 million in customer orders into FY 95. These customer orders were funded by the customer but were not ordered by supply because of the obligations-to-sales ratio. Additionally, PACAF had \$10.7 million in deferred orders for stock replenishment.³ In order to meet the ratio, both stock replenishment and customer backorders must be deferred, particularly during the last quarter of the fiscal year. Since sales are the driving factor, requisitions for property that cannot be received and sold prior to the end of the fiscal year are being deferred until the next year. This creates a "bow wave" of requirements where customer requests are held until after 1 October—the start of the new fiscal year—and then ordered *en mass*. Unfortunately, the Chief of Supply immediately exceed his new ratio and spends the remainder of the fiscal year trying to reach the approved target. If ordered items are not received and sold to reduce the ratio, then ordering restrictions are implemented and stock replenishment is deferred, starting the cycle over again. PACAF bases begin deferring orders up to six months or more before the end of the fiscal year for long lead-time, non-stocked items such as dormitory and military housing furniture.⁴ Because these quality of life issues may obligate hundreds of thousands of dollars, the stock fund is restricted until the furniture is constructed, shipped, received, and sold. At bases like Kunsan AB, Korea,

the ordering customers may not even see the property they requisitioned because their tours will quite likely be over before the assets arrive.

As previously discussed, the purpose of the stock fund is to provide a variety of materiel to supply customers as quickly and efficiently as possible. The stock fund does this either by having inventory available on the shelf or by backordering the materiel from a vendor or wholesale Inventory Control Point. Current policy is for the stock fund to earn ordering authority based on a percentage of sales; however a sale only occurs when the customer receives the property, even if the item was ordered in a prior year. Clearly, this delays the point in time when the stock fund earns ordering authority and reduces its ability to buy new inventory for future demands.⁵ An obligations-to-demands ratio offers a better way of doing business.

The entire supply process is driven by current demands and not from sales of items that may have been ordered last year or the year before. Therefore, if ordering authority were based on demands, the Chief of Supply could replace inventory based on the latest demand history with a better chance of having the right part on the shelf to meet the next customer requirement. If a customer comes to supply and orders an item, and has the O&M funds to pay for it, the stock fund should have the ordering authority at that point to order the item for the customer instead of having to wait until a sale is made. The stock fund is dependent on sales. It is simply not prudent management to turn away customers with funds or to delay ordering their requirements because of imposed ordering restrictions. Not only is it difficult for the Chief of Supply to explain to the customer why he cannot spend the money the customer just handed him, it is detrimental to mission readiness and adequate force management not to be able to spend it. However, Defense

Logistics Agency made two arguments that convinced OSD to retain the obligations-to-sales ratio.⁶

First, the Defense Logistics Agency argued against the timely availability of demand data. Since demand data are not available on the 15th of each month, timeliness of their Unit Cost Reports would be impacted if the output was changed from sales to demands. In reality, this argument is irrelevant. In the past several years, the Standard Base Supply System has made many changes to improve its data collection and budgeting process. If the Defense Logistics Agency needs to adjust its systems to gather demand data in a more timely fashion, the adjustment should be a matter of software modification that is part of the continuing evolution in improving supply support.⁷

Secondly, the Defense Logistics Agency maintained the mission of an Inventory Control Point is to satisfy customer materiel requirements. According to them, customer requirements are satisfied when a sale is made, not when the demand occurs. Therefore, if an item is backordered, the Inventory Control Point had not done its job properly. Subsequently, they argue a unit cost based on demand would provide a financial disincentive to reduce backorders. Use of sales as the output, however, rewards those activities who buy what sells.⁸ This argument leads to the assumption that if a base supply account does not have an item on the shelf for immediate sale, then its operations are inefficient and it should be penalized by reduced ordering authority. In that context, the customer is in actuality the one being penalized; since supply did not earn the ordering authority for the customer's order, the customer will not get his order filled as quickly. In any case, every aspect of effective inventory management is underscored by the principle it is not feasible or desirable to have enough inventory on hand to immediately meet every

customer need. Consequently, some number of backorders will always be in the logistics pipeline.

The impact of the obligations-to-sales stock fund ratio has been to delay in customer support and mission accomplishment. In many instances, customers are using workaround methods to buy items locally and bypass the stock fund.⁹ Because the prices of materiel bought locally are normally much higher than those offered through Department of Defense sources of supply, the customers deplete their O&M budgets more quickly when they buy locally to fill the requirements that the Chief of Supply is forced to hold in order to meet his ratio. Additionally, with such a great number of obligations tied up each year in deferred orders, the Chief of Supply must rely on materiel acquisition control records (MACR) earlier in the fiscal year.

Notes

¹HQ USAF/LEX Letter, "Minutes of the Combined Meeting of the Air Force Stock Fund and Stock Funding of Depot Level Repairables [sic] GOSGs, 4 May 90," 5 September 1995.

²Personal Experience of the Author, July 1991-June 1995.

³HQ PACAF/LG Working Papers, "Stock Fund Management," July 1995.

⁴HQ PACAF/LGS Message, "Supply Management Business Area (SMBA) Integrated Definition Process Improvements," Date Time Group 301931Z Oct 95.

⁵HQ USAF/LGSY Issue Paper, "Supply Management Business Area (SMBA) Output," 23 February 1995.

⁶OSD/FM Letter, "Recommendation to Change the Supply Management Output from Gross Sales to Demand for Both Wholesale and Retail Supply," 1 February 1995.

⁷HQ USAF/LGSY Issue Paper, "Supply Management Business Area (SMBA) Output," 23 February 1995.

⁸Ibid.

⁹Personal Experience of the Author, July 1991-June 1995.

Chapter 5

The Materiel Acquisition Control Record: Setting The Handbrake On Support

The Chief of Supply uses materiel acquisition control records (MACR) to adjust or prevent automatic requisitioning. Ordinarily the Standard Base Supply System replenishes inventory of expendable items by using an Economic Order Quantity (EOQ) methodology. The EOQ model uses demand history (based on customer usage) and item cost along with the costs of ordering and holding inventory to calculate an order quantity that minimizes total variable costs. The EOQ is supplemented with the number of items needed to fill expected customer demands during the time the base is waiting to receive a replenishment order. This supplemental quantity is called the order and ship time quantity. Finally, the EOQ model adds a safety level of additional stock which is maintained to prevent stockouts from unexpectedly high demands or when it takes longer than expected to receive a replenishment order.¹ Without MACR controls, this entire requisitioning process would occur automatically under computer program control.

As a rule, the Chief of Supply uses MACR controls anytime he anticipates or actually experiences a deficit in the stock fund operating program. Deficits occur when the value of anticipated requisitions is greater than the value of total financial authority.² This deficit could be generated by budgeting constraints, mission changes, a reduction in

customer demands, or unprogrammed customer demands such as those deferred customer requirements that form the "bow wave" at the beginning of each fiscal year. MACRs have four control parameters; maximum automatic obligation for due-outs, maximum automatic obligation for stock replenishment, urgency of need funding flag, and MACR factors.³

Maximum automatic obligations allow the Chief of Supply to set parameters for review of both due-outs and stock replenishment requirements that exceed the threshold. For example, if the maximum automatic obligation for due-outs was set at \$2500.00, any customer requirement equal to or less than \$2500.00 would automatically be requisitioned while a due-out that exceeded \$2500.00 would be externally reviewed. Due-out requisitioning is not normally suppressed since customer due-outs will result in a sale. However, if the stock fund ratio has to be reduced, the Chief of Supply will have to defer customer requirements for high dollar value items with a long procurement lead time that will not result in a sale in the current fiscal year. Stock replenishment requisitioning receives more stringent examination.

Stock replenishment requisitions are used to put stock back on the shelf for future customer needs. They are not guaranteed sales, at least not in the near term. Consequently they offer an immediate target to reduce obligations. However, reducing stock replenishment means future problems in meeting customer needs. Empty shelves mean more customer due-outs which translates to more work at base level supply. One difficulty in reviewing stock replenishment requisitions is that the Chief of Supply does not know how urgently his customers will need the stock he is ordering. He is, however, aware of the urgency of need they place on their due-outs.

The urgency of need designator (UND) is an integral part of the MACR control system. The customer assigns the UND based on their need for the item. A UND of "A" is assigned to the most urgently needed items while a UND of "E" has the lowest priority. When a customer request is processed, a UND (provided by the customer) is automatically factored into the request. For example, if the UND flag is set for a UND of "B", and the issue request is "B" or "A", and the extended value of the requisition is equal to or less than the value loaded to the MACR for due-out requisitions, the supply computer will automatically order the item.⁴ If the request has a UND of "C", the computer will not requisition the item and the requisition itself will be externally reviewed to determine if it will be ordered or held for future ordering. Anytime the Chief of Supply is forced to resort to using MACR controls, he must ensure very close coordination with his customers. If the UND flag is set on "A", then a customer who does not understand the stock fund problem may order everything as UND "A." This priority abuse may keep the Chief of Supply from ordering requisitions that are genuinely mission-critical, and will certainly restrict stock replenishment which in turn leads to even more customer due-outs. However, MACR factors allow for some flexibility in ordering stock replenishment requisitions.

In stockage policy terms, the MACR factor is an adjustment factor, from 0 to 100 percent of the EOQ of a stock replenishment requisition. If a MACR factor of 0 percent is applied, no stock is ordered; if the MACR factor is set at 80 percent, 80 percent of the EOQ is ordered.⁵ The MACR factor does not have any effect on the requirements computation, demand level, order and ship time quantity, or safety level. The only thing the MACR factor does is reduce the EOQ, thus causing a lesser quantity to be ordered for

stock replenishment without altering demands.⁶ MACR factors are useful for long range planning purposes, such as reaching a target stock fund ratio, but require very close monitoring. The Chief of Supply only wants to apply the MACR factor for the short term. The longer a MACR factor stays active, the more closely impacts to customer support and mission accomplishment must be monitored. Leaving a MACR factor in place too long could result in too little inventory; incorrect application can lead to too many of the wrong assets in stock.⁷ One way to reduce the likelihood for these situations is to apply MACR factors by stockage priority code.

Stockage priority codes (SPC) are assigned to all EOQ items by the base supply computer. Their main purpose is to identify mission essential items so stock replenishment is not curtailed.⁸ For example, an SPC of "1" is assigned to any items whose out-of-stock condition generates a MICAP incident—grounding of a weapon system. An SPC of "2" is an out-of-stock condition which was non-grounding but prevents mission accomplishment. The lowest SPC of "5" is assigned to inactive items. Stockage priority codes are dynamic in that, once assigned, they are downgraded by 1 if there has been no demand in 90 days. For example, if an out-of-stock condition leads to a MICAP condition, then that item has an SPC of "1" assigned for 90 days. If no subsequent demands occur for the item in the next 90 days, the SPC is downgraded to "2" and so on down to SPC "4". If an SPC "4" item has no demand for 180 days, it is downgraded to SPC "5" and stock replenishment is suspended.⁹ This transaction allows the Chief of Supply to automatically requisition for stock those items with high stockage priority codes.

The MACR is an excellent tool when the Chief of Supply anticipates a reduction in demands from his supply customers. Such instances as a reduction in O&M dollars, a mission change, or a base closure call for prudent management to reduce inventory. However, when faced with constant or increasing demands, the MACR reduces the total value of requisitions and decreases customer support while increasing the workloads at base and wholesale supply. MACR constraints are short-term control mechanisms and do not resolve long-standing stock fund shortfalls. A stock fund study conducted by the Air Force Logistics Management Agency in June 1989 reached the following conclusions.¹⁰

1. There is no right or wrong MACR control. Each Chief of Supply has to apply MACR controls based on the base mission and the health of the stock fund program.
2. MACR controls will reduce the total dollar value of requisitions at a base and will consequently reduce on-hand inventory.
3. MACR controls will only work to resolve short-term stock fund problems and cannot be used from one fiscal year to the next, unless customer demands decline.
4. Applying MACR controls will reduce customer support and generate additional workload for both the retail and wholesale systems.

In spite of the difficulties created for the supply system, the GOSG directed HQ USAF/LEYS/LEXW to release a joint message in February 1989 requiring all MAJCOMs to apply MACR controls or other means necessary to maintain their specified stock fund ratios.¹¹

In addition to providing a mechanism for controlling the requisitioning process, the MACR also provides the Chief of Supply real-time visibility and financial control of his stock fund program. In May 1990, HQ AFAFC/XSMM briefed the GOSG that a redesigned MACR, MACR II, was scheduled for implementation and would resolve several MACR shortfalls in the General Support Division.¹² After a number of delays, MACR II was finally implemented worldwide on 1 April 1991.¹³

Notes

¹Johnston, SMSgt Rosemary, "General Support Division (GSD) Stock Fund Assessment Study," Air Force Logistics Management Center Final Report LS912070, February 1991, 17.

²AFM 23-110, Vol II, Part Ten, Chap 1, Para 1.29.1, 1 October 1995.

³AFM 23-110, Vol II, Part Ten, Chap 1, Para 1.28.2, 1 October 1995.

⁴Air Force Base Level Implementation Training Package for Stock Funding Depot Level Repairables, Air Force Logistics Management Center Project LM922149, May 1992.

⁵"Executive Handbook for Stock Fund Managers." Prepared by Captain Raymond T. Daly, Jr., SMSgt Rosemary Johnston, and Captain Bradley D. Silver, Air Force Logistics Management Center, July 1991, 24.

⁶Matthews, Lt Col Chet, "Stock Fund Analysis," Air Force Logistics Management Center Final Report LS890212, June 3 1989, 3.

⁷"Executive Handbook for Stock Fund Managers." Prepared by Captain Raymond T. Daly, Jr., SMSgt Rosemary Johnston, and Captain Bradley D. Silver, Air Force Logistics Management Center, July 1991, 24.

⁸Johnston, SMSgt Rosemary, "General Support Division (GSD) Stock Fund Assessment Study," Air Force Logistics Management Center Final Report LS912070, February 1991, 19.

⁹Matthews, Lt Col Chet, "Stock Fund Analysis," Air Force Logistics Management Center Final Report LS890212, June 3 1989, 17.

¹⁰Ibid., 13.

¹¹HQ AFAFC/CC Letter, "Minutes of the Stock Fund General Officer Steering Group Meeting, 8 May 1989," 7 June 1989 (Draft).

¹²HQ USAF/LEX Letter, "Minutes of the Combined Meeting of the Air Force Stock Fund and Stock Funding of Depot Level Repairables [sic] GOSGs, 4 May 90," 5 September 1995.

¹³HQ USAF/LGS Letter, "Minutes of the Stock Fund General Officer Steering Group (GSOP) Meeting, 27 Aug 91," 2 October 1991.

Chapter 6

MACR II: New Erroneous Financial Data

MACR II was designed to provide the Chief of Supply with up-to-date financial management information, increase the visibility and overall control of funds provided for operating, and improve the visibility over the approved obligations-to-sales ratio. MACR II was intended to ensure there were no differences between the management information being produced for base supply and the information in the official reports being produced by base accounting and finance.¹ To understand the mechanics of the interface between base supply and base accounting and finance, it is first important to have some knowledge of Financial Inventory Accounting.

Financial Inventory Accounting (FIA) is a stock fund financial management tool that makes vital financial information available at all times. Each supply transaction affecting physical inventory balances is assigned an FIA code under program control. This code is used to update inventory management records and General Ledger Accounts.²

General Ledger Accounts (GLA) are how the accounting system tracks assets by categories. The GLAs are assigned codes for different types of accounts and provide financial data as liabilities and assets. Examples of GLAs include real accounts which represent assets, liabilities, and net worth; asset accounts which represent the debit balance for inventory and cash used to pay obligations; and liability accounts which are credit

balance accounts and show the amount due to procurement sources.³ Each supply transaction affecting inventory is recorded in one of the GLA categories and is reflected eventually in the trial balance.

The trial balance presents a summary of GLA transactions reflecting what the Defense Finance and Accounting Service uses to show balances. From the trial balance managers can see the results of transactions. The trial balance is reconciled with base supply and is the official summary of stock fund balances. The trial balance is a product of the Standard Materiel Accounting System (SMAS). SMAS takes base level GLA balances and consolidates them for accounting and finance. It also pulls financial data out of the accounting systems and consolidates them for accounting and reporting purposes. SMAS uses this data to produce the trial balance. Additionally, SMAS takes transactions from stock fund accounts and updates the trial balance and stock fund operating program reflecting end-of-month transactions.⁴

Implementation of MACR II should have resolved any differences between management information being produced for base supply and the information being produced in official reports by base accounting and finance. However, base level managers quickly found they needed to make monthly adjustments to bring MACR II in line with the trial balance. In March 1993, a Tiger Team headed by the Standard Systems Group met to identify disconnects between GLA updates in accounting and finance records and obligations and commitments updating MACR II.⁵ They found fifteen specific problems in MACR II that led to disparities in financial reporting. Of those, three significant problems involved the Base Contracting Acquisition System (BCAS).

When the Chief of Supply receives obligation authority from the MAJCOM, the obligation authority is divided between local purchase and other funded sources of supply. The portion of obligation authority set aside for local purchase is loaded into the BCAS target for base contracting as well as the SBSS target. The Chief of Supply sends a letter to base contracting requesting the MACR II targets be loaded. When this target is reached, additional obligation authority is transferred and a new target letter is sent to base contracting. If additional obligation authority is not available, no further contracts can be awarded.⁶ The Tiger Team found when a customer canceled a local purchase requisition, the BCAS system did not adjust its target upward. This caused obligations to be overstated which resulted in the BCAS system running out of obligation authority when in reality, some funds were available. They also found additional adjustments to local purchase requisitions which resulted in a decrease in the order quantity but which also failed to update BCAS targets. As a final example, the Tiger Team discovered adjustments to Claims Payable created from short receipts (receiving less than the ordered quantity) that did not return obligations as they should. All of the problems discovered were forwarded to HQ SSC/LGSPC for correction.⁷

Several system releases occurred which corrected the errors detected by the Tiger Team. However, further inspection proved disconnects still existed between GLA updates in the accounting and finance records and obligations and commitments updating MACR II. Monthly adjustments were still needed to bring MACR II in line with the trail balance. Subsequently, a second Tiger Team was assembled in March 1994.⁸ During this meeting, the Tiger Team found 21 additional problems requiring resolution. Of particular interest were two serious problems that resulted in erroneous deletion of funds.

The first problem had to do with lateral support requisitions. A lateral support requisition is generated when a source of supply does not have the needed item but another base does. The owning base then ships the item to the base that needs it without reimbursement. In these cases, obligation authority should have been increased by the value of the total requisition, but was not. The second problem occurred when requisitions were passed to DEPRA.

DEPRA is a program that matches bases which have excess items with bases who are ordering the same items prior to passing the requisition to a source of supply. When a match occurs, the receiving base received status that updated where the item was coming from but did not increase obligation authority, similar to the problem with lateral support. These problems, along with the others, were forwarded to the Standard Systems Group for program correction. Once the corrections are made, further out-of-balance discrepancies will require further research.

The implementation of MACR II has not improved base level management of the stock fund. Chiefs of Supply routinely apply MACR constraints on a year-round basis to meet their stock fund ratio, in spite of the extra workload and the ultimate impact on customer support.⁹ Even after changing the stock fund ratio format to accommodate MACR II, financial data must be adjusted monthly to present an accurate assessment of the stock fund position. Consequently, until MACR II is corrected, base supply and accounting and finance must work to ensure data exchanges between their respective systems are promptly and accurately reconciled.

Notes

¹AFM 23-110, Vol II, Part Ten, Chap 1, Para 1.35, 1 October 1995.

Notes

²AFM 23-110, Vol II, Part Ten, Chap 1, Para 1.8, 1 October 1995.

³"Executive Handbook for Stock Fund Managers." Prepared by Captain Raymond T. Daly, Jr., SMSgt Rosemary Johnston, and Captain Bradley D. Silver, Air Force Logistics Management Center, July 1991, 26.

⁴Ibid., 27.

⁵HQ SSC/SBFLA Letter, "Minutes of Tiger Team, MACR II, 1-11 Mar 93," Undated.

⁶AFM 23-110, Vol II, Part Ten, Chap 1, Para 1.35.7, 1 October 1995.

⁷HQ SSC/SBFLA Project Summary Sheet, "GSD Ratio and D08 Update," Control Number D93-004-9, 20 September 1993.

⁸HQ SSC/LGSPS Letter, "MACR II Tiger Team—ACTION MEMORANDUM," 16 March 1994.

⁹Personal Experience of the Author, July 1991-June 1995.

Chapter 7

Summary, Recommendations, And Conclusion

The air force stock fund is used to finance inventories and customer requirements. Under an obligations-to-demands stock fund ratio, customer funds are used to reimburse the stock fund at the time the order was placed. However, under the current concept of an obligations-to-sales ratio, the cost of purchase is held in suspense until the actual sale occurs. Customer funds are not actually used to procure the materiel. If stock fund dollars are not available for the Chief of Supply to purchase the required items, then the customer funds are held in suspense until stock funds become available. This concept requires dual record keeping for the suspended customer dollars and the stock fund dollars for the same requirement and creates delayed customer support.

Customer needs are left unprocured (even though their funds are obligated) until stock funds become available. This has an adverse impact on ordering authority which is based on the amount of inventory needed using demand level computations. The Chief of Supply cannot use his ordering authority to replenish inventory if it must be used to procure property for the customers' obligated needs. Customer due-outs for non-critical items such as furniture could be placed on hold for months because the stock fund cannot fill both customer due-outs and stock replenishment with limited ordering authority. This results in unsatisfied customers who have given up their funds but their property is not on

order. The entire process results in micro-management of both stock and customer needs as countless man-hours are expended determining how limited funds are to be used. However, the process would be greatly simplified and streamlined by implementing any one of the three following recommendations.

The most desirable recommendation from a base level point of view is a return to the obligations-to-demands ratio. While the supply community has argued this position without success since August 1991, it still merits consideration for four reasons. First, it allows immediate use of the customer's money instead of waiting for a sale and eliminates the requirement for dual record keeping. The customer's requirements are placed on order immediately instead of waiting for stock fund dollars to become available. Second, reverting to an obligations-to-demand ratio will not affect the use of MACR II. Ironically, MACR II provides a comparison of the actual obligations-to-demands ratio to the target ratio.¹ Any minor software modifications could be made as a matter of course by the Standard Systems Group. Third, it greatly reduces the need for full-time application of MACR controls. MACR restrictions undermine EOQ quantities and cause a great number more transactions with lesser quantities to the sources of supply. They also require more supply, contracting, and accounting and finance activity to manage the additional transactions and billings. MACR controls cause a significant increase in priority backorders which in turn require more costly priority transportation. Finally, the obligations-to-demand ratio virtually eliminated the End of Year "bow wave" of orders deferred in the previous fiscal year. Since customer funds are immediately used, there is almost no need to defer customer needs to a new fiscal year.

The second recommendation, which accommodates an obligations-to-sales ratio, is to change the point of expense to the customer from an obligations perspective to an immediate sale once the decision to buy is made; then the customer's funds are used to directly finance the purchase of the materiel he ordered. Using customer funds to directly finance a "guaranteed" sale bypasses the requirement to have stock funds available.² The point of sale would remain at the customer but it would now be recorded as a sale upon acceptance of the customer's order and a billing notice would be send to accounting and finance to debit the customer's funds. This recommendation would only apply, however, to actual customer due-outs, not stock replenishment. The stock fund would continue to be used to pay for stock replenishment. Additionally, customers who are issued assets from stock would continue to be charged as they are now. The recommendation allows for the inventory control provided by an obligations-to-sales ratio while allowing customer funds to be used to finance customer backorders.

The third recommendation requires the stock fund to be managed by two different ratios to meet two different requirements.³ First, the customer funded requirement which is either satisfied with an item from stock or a funded backorder to a source of supply would be managed by an obligations-to-demand ratio. This would increase stock fund buying power, allow the timely ordering of high dollar-value, long lead-time items such as furniture, and free up obligation authority without an effect on inventory. Second, the Chief of Supply stock replenishment requirements would be managed by an obligations-to-sales ratio. Unmanaged automatic stock replenishment can lead to increases in unnecessary inventory; consequently, stock replenishment should be managed by an obligations-to-sales ratio that provides continuous management attention.

In spite of the best efforts of the supply community, initiatives to improve stock fund management at base level have only increased the workload, increased the number of customer backorders for materiel that would otherwise be stocked on the shelf, increased customer frustration, and, ultimately, decreased mission support. Supply manpower is being reduced as a result of improvements in computer and software technology. At the same time, software modifications to enhance financial visibility and stock fund management have added to the manual workload, failed to provide the expected benefits, and have not significantly contributed to base level management of the stock fund. In a time of drawdown of people, facilities, and spares, the General Support Division base supply system has become less responsive and less supportive of the customer. Our current method of doing business merits further attention.

Notes

¹AFM 23-110, Vol II, Part Ten, Chap 1, Para 1.35.2, 1 October 1995.

²HQ SSG Improvement Opportunity, "Stock Fund/Working Capital Fund Concepts," ID Number SUP036, 19 June 1995.

³HQ AMC/LGS Message, "Stock Fund Management," Date Time Group 061420Z Jul 93.

Bibliography

- Air Force Manual (AFM) 23-110, Vol II, Part Ten. October 1995.
- Air Force Manual (AFM) 67-1, Vol I, Part Three. 26 June 1995.
- Air Force Base Level Implementation Training Package for Stock Funding Depot Level Repairables*, Air Force Logistics Management Center Project LM922149, May 1992.
- Bauman, Lt Col John V. "The New Air Force Stock Fund: Its Impact and Applications for Commanders," Air University, 1992.
- "Executive Handbook for Stock Fund Managers." Prepared by Captain Raymond T. Daly, Jr., SMSgt Rosemary Johnston, and Captain Bradley D. Silver, Air Force Logistics Management Center, July 1991.
- Hanks, Christopher H. "The Influence of Systems Support Division Funding and Safety Levels on Aircraft Availability," Logistics Management Institute, Task AF501-1, October 1985.
- HQ AFAFC/CC Letter, "Minutes of the Stock Fund General Officer Steering Group Meeting, 8 May 1989," 7 June 1989 (Draft).
- HQ AMC/LGS Message, "Stock Fund Management," Date Time Group 061420Z July 1993.
- HQ PACAF/LG Working Papers, "Stock Fund Management," July 1995.
- HQ PACAF/LGS Message, "Supply Management Business Area (SMBA) Integrated Definition Process Improvements," Date Time Group 301931Z Oct 95.
- HQ SSG Improvement Opportunity, "Stock Fund/Working Capital Fund Concepts," ID Number SUP036, 19 June 1995.
- HQ SSC/LGSPS Letter, "MACR II Tiger Team—ACTION MEMORANDUM," 16 March 1994.
- HQ SSC/SBFLA Letter, "Minutes of Tiger Team, MACR II, 1-11 Mar 93," Undated.
- HQ SSC/SBFLA Project Summary Sheet, "GSD Ratio and D08 Update," Control Number D93-004-9, 20 September 1993.
- HQ USAF/LEX Letter, "Minutes of the Combined Meeting of the Air Force Stock Fund and Stock Funding of Depot Level Repairables [sic] GOSGs, 4 May 90," 5 September 1995.
- HQ USAF/LGS Letter, "Minutes of the Stock Fund General Officer Steering Group (GSOP) Meeting, 27 Aug 91," 2 October 1991.
- HQ USAF/LGSY Issue Paper, "Supply Management Business Area (SMBA) Output," 23 February 1995.
- Johnston, SMSgt Rosemary. "General Support Division (GSD) Stock Fund Assessment Study," Air Force Logistics Management Center Final Report LS912070, February 1991.

Matthews, Lt Col Chet. "Stock Fund Analysis," Air Force Logistics Management Center
Final Report LS890212, June 3 1989.

OSD/FM Letter, "Recommendation to Change the Supply Management Output from
Gross Sales to Demand for Both Wholesale and Retail Supply," 1 February 1995.